

3-D Reconstruction and Analysis of X-ray Micro-CT Images by Using VoxBlast Software

—The Effect of Raloxifene on the Lumbar Vertebrae in Ovariectomized Mice—

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To evaluate the skeletal efficacy of raloxifene on the osteoporosis in ovariectomized mice model, the sixth lumbar vertebrae was scanned by X-ray micro-CT, and these resulting 8-bit gray-scale images were analyzed by using commercial three-dimensional (3-D) reconstruction software (VoxBlast™ Mac, VayTek, Inc., USA).

In this paper, it is described how to use VoxBlast software practically for processing sequential datasets from CT scanners.

Furthermore, we demonstrate in 3-D visualization that new trabecular bones build compact bridge constructions in the lumbar vertebrae after the treatment with raloxifene.

Key words : VoxBlast, 3-D reconstruction, image analysis, raloxifene, ovariectomized mice